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BEFORE THE ARIZONA CORPORATION COMMISSION

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BOB STUMP

IN THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY FOR APPROVAL OF THE COMPANY'S 2011 DEMAND SIDE MANAGEMENT IMPLEMENTATION PLAN

DOCKET NO. E-01345A-10-0219

FIRST SUPPLEMENTAL FILING RE NEW NON-RESIDENTIAL MEASURES

I. INTRODUCTION

Arizona Public Service Company ("APS" or "Company") filed its 2011 Demand Side Management Implementation Plan ("2011 Plan") on June 1, 2010. In that filing, APS committed to submit supplemental informational filings ("Supplemental Filings") using a staggered timeline. The Supplemental Filings would update and expand the information provided on new programs and measures contained in the 2011 Plan, including (if necessary) updating the estimates of the programs' budget and megawatt-hour ("MWh") savings.

APS hereby makes this first Supplemental Filing, which provides detailed information and cost-effectiveness test results for each of the new Non-Residential measures proposed in APS's 2011 Plan. The additional details contained in this Supplemental Filing, which is attached hereto as Attachment A, do not impact the estimated budget and the savings estimate; therefore, the Demand Side Management Adjustor Charge ("DSMAC") estimate and the energy/demand savings estimates remain unchanged from the 2011 Plan.

II. SUPPLEMENTAL INFORMATION FOR NEW NON-RESIDENTIAL MEASURES

All proposed new measures contained in this Supplemental Filing are energy efficiency measures applicable to APS's Non-Residential Demand Side Management

("DSM") (Solutions for Business) programs, and include prescriptive measures, direct-install measures and a bid for efficiency measure. Table 1 lists the proposed measures that are the subject of this Supplemental Filing:

Table 1
Summary of Proposed New Measures
Non-Residential Energy Efficiency Programs

	Measure
Prescriptive Measures	
1	Carbon Monoxide (CO) Sensors
2	Carbon Dioxide (CO_2) Sensors
3	Hotel Room Controls
4	Smart Strips - Occupancy Sensors
	Smart Strips - Load Sensor
	Smart Strips - Timer Plug Strip
5	LED Traffic Lights
6	LED Channel Signs
7	T8 to Premium T8
8	Cooling Tower Subcooling
9	Building Envelope -Window Film
	Building Envelope - Shade Screens
10	Computer Power Management Software
11	Refrigeration - Automatic Door Closers
12	Refrigeration - Efficient Condensers
13	Refrigeration - Efficient Compressors
14	Refrigeration - Floating Head Pressure Controls
15	Energy Efficient Motor Rewind
16	Heat Pump Water Heaters
17	Coin Operated Clothes Washers[1]
Direct Install Measures	
1	T12 to Premium T8
2	T8 to Premium T8
Other Measures	
1	Bid for Efficiency Pilot[2]

[1] The coin operated washing machine measure was inadvertently omitted from the 2011 Plan filed on June 1, 2010. Details regarding this measure are included in this Supplemental Filing.

[2] This measure was not described as a pilot in the June 1st filing, but given its unique nature and the Company's plan to specifically review the program at a future date and either continue or terminate the program based on that review; APS believes the measure is best characterized as a pilot program.

III. BUDGET, PROGRAM RESULTS, AND DSMAC

The costs and benefits of the proposed measures discussed in this Supplemental Filing were included in the budget estimates provided in APS's 2011 Plan filed June 1, 2010. The additional details contained in this Supplemental Filing do not impact the Non-Residential Energy Efficiency estimated budget; therefore, the DSMAC estimate included in the 2011 Plan remains unchanged. Additionally, the savings estimates, including 1) megawatt savings, 2) annual and lifetime MWh savings, and 3) societal benefits, societal costs, and net benefits remain unchanged.

IV. CONCLUSION

APS requests the Commission consider and approve, as soon as practicable, these new Non-Residential measures. This will allow APS to complete the necessary preparatory work prior to program launch, and offer the benefits of these new programs and measures to customers as soon as possible in 2011.

RESPECTFULLY SUBMITTED this 30th day of June, 2010.

By: _____
Thomas L. Mumaw
Linda J. Arnold

Attorneys for Arizona Public Service Company

ORIGINAL and thirteen (13) copies of the foregoing filed this 30th day of June, 2010, with:

Docket Control
ARIZONA CORPORATION COMMISSION
1200 West Washington Street
Phoenix, Arizona 85007

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Arizona Public Service Company

Demand Side Management Implementation Plan 2011

Supplemental Information Filing

June 30, 2010

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I. Introduction

Arizona Public Service Company ("APS" or "Company") filed its 2011 Demand Side Management Implementation Plan ("2011 Plan") on June 1, 2010. This supplemental informational filing ("Supplemental Filing") provides detailed information and cost-effectiveness test results for each of the new Non-Residential measures proposed in APS's 2011 Plan. All proposed new measures contained in this Supplemental Filing are Energy Efficiency ("EE") measures applicable to APS's Non-Residential Demand Side Management ("DSM") Solutions for Business programs.

The costs and benefits of the proposed measures discussed in this Supplemental Filing were included in the budget estimates provided in the 2011 Plan filed June 1, 2010. The Non-Residential EE estimated budget is not impacted by the additional detail contained in this Supplemental Filing. For this reason, the Demand Side Management Adjustor Charge ("DSMAC") estimate included in the 2011 Plan also remains unchanged. Additionally, the savings estimates including 1) megawatt ("MW") savings, 2) annual and lifetime megawatt-hour ("MWh") savings, 3) societal benefits, societal costs, and net benefits also remain unchanged.

Table 1 lists each of the proposed measures for which full detail is provided in this Supplemental Filing and the results of the associated cost effectiveness tests for each respective measure:

Table 1
Summary of Proposed New Measures
Non-Residential Energy Efficiency Programs

	Measure	Societal Benefit to Cost Ratio
Prescriptive Measures		
1	Carbon Monoxide (CO) Sensors	3.1
2	Carbon Dioxide (CO_2) Sensors	2.9
3	Hotel Room Controls	2.0
4	Smart Strips - Occupancy Sensors	1.1
	Smart Strips - Load Sensor	2.4
	Smart Strips - Timer Plug Strip	5.6
5	LED Traffic Lights	1.4
6	LED Channel Signs	1.1
7	T8 to Premium T8	1.2
8	Cooling Tower Sub Cooling	1.4
9	Building Envelope -Window Film	1.2
	Building Envelope - Shade Screens	2.5
10	Computer Power Management Software	1.3
11	Refrigeration - Automatic Door Closers	2.3
12	Refrigeration - Efficient Condensers	2.7
13	Refrigeration - Efficient Compressors	4.5
14	Refrigeration - Floating Head Pressure Controls	7.4
15	Energy Efficient Motor Rewind	1.6
16	Heat Pump Water Heaters	1.8 – 2.4
17	Coin Operated Clothes Washers[1]	1.6 – 2.0
Direct Install Measures		
1	T12 to Premium T8	4.0
2	T8 to Premium T8	1.2
Other Measure		
1	Bid for Efficiency Pilot	1.5

[1] The coin operated washing machine measure was inadvertently omitted from the 2011 Plan filed on June 1, 2010. Details regarding this measure are included in this Supplemental Filing.

II. Proposed New Measures

To help APS achieve its energy savings goal of 1.25% of total energy resources for 2011, the Non-Residential programs will need to be expanded to include additional measures. The new Non-Residential EE measures proposed in the 2011 Plan are categorized as Prescriptive measures, Direct Install measures, and a Bid for Efficiency Pilot. All proposed new measures have a societal benefit/cost ratio greater than 1.0.

The proposed Prescriptive measures are applicable to four of the Non-Residential programs:

- Large Existing Facilities
- New Construction
- Small Business
- Schools

The proposed Direct Install measures are currently applicable to three of the Non-Residential programs for customers up to 100 kW in size:

- Large Existing Facilities
- Small Business
- Schools

APS requested in its 2011 Plan that the size restriction for Direct Install be expanded from customers up to 100 kilowatt ("kW") in size to customers up to 400 kW in size.

The proposed Bid for Efficiency pilot measure is applicable to two of the Non-Residential programs:

- Large Existing Facilities
- Schools

Following is a detailed description of each proposed new measure, the customer incentive, customer payback, and the societal benefit to cost ratio:

A. PRESCRIPTIVE MEASURES

1. Carbon Monoxide (CO) Sensors

A carbon monoxide ("CO") sensor controls ventilation fans in parking garages. Enclosed parking garages require a high level of ventilation during all occupied hours. Building codes allow the option to operate ventilation fans based on the level of CO measured in the parking garage. Since all gas-fueled vehicles emit some CO when they operate, the level of CO can indicate vehicle activity in the space and can be used to activate ventilation fans based only when needed. Energy savings can be achieved by either turning ventilation fans off or by modulating the speed of the ventilation fans using variable speed drives to match run time or run speed to demand, as opposed to running constantly.

Savings Versus Standard Design	33%
Customer Incentive	$250/sensor
Customer Payback	0.7 years
Societal Benefit to Cost	3.1

2. Carbon Dioxide CO_2) Sensors

A carbon dioxide ("CO_2") sensor controls outside air ventilation for conditioned spaces. Building codes require that a minimum amount of fresh air be provided to ensure adequate air quality. To comply, ventilation systems often operate at a fixed rate based on an assumed occupancy (e.g., 15 to 20 cubic feet per minute ("cfm") per person multiplied by the maximum design occupancy). Thus, there often is much more fresh air coming into buildings than is necessary. That air must be conditioned, which results in higher energy consumption and costs.

Demand-controlled ventilation ("DCV") using CO_2 sensors is a technology that monitors CO_2 levels in the air inside a building and regulates the amount of ventilation air admitted into the building accordingly.

CO_2 sensors continually monitor the air in a conditioned space. People exhale CO_2 at a predictable level resulting in CO_2 production closely tracking occupancy. An indoor CO_2 measurement can be used to control the amount of outside air required. The result is that ventilation rates can be measured and controlled to a specific cfm/person based on actual occupancy. This is in contrast to the traditional method of ventilating at a fixed rate regardless of occupancy.

A lack of adequate fresh air can make building occupants drowsy and uncomfortable. To avoid the problems of too much or too little fresh air, the heating, ventilation, and air-conditioning ("HVAC") system can use DCV to tailor the amount of ventilation air to the occupancy level. CO_2 sensors have emerged as the primary technology for monitoring occupancy and implementing DCV. Energy savings result from limiting ventilation based on actual occupancy as opposed to ventilating for maximum occupancy.

Savings Versus Standard Design	24%
Customer Incentive	$200/sensor
Customer Payback	2.9 years
Societal Benefit to Cost	2.9

3. Hotel Room Controls

Hotel room controls use a combination of occupancy sensors, programmable thermostats, and the hotel's card key management system to control air conditioning energy use. The system changes the air conditioning room temperature set points based on occupancy and room rental. When a room is not rented, the temperature is set back so that the air conditioning does not come on as much as when the room is rented but unoccupied. When the room is rented, the air conditioning is set back when unoccupied, but not set back as much as when it is not rented.

Savings Versus Standard Design	38%
Customer Incentive	$50/room
Customer Payback	0.8 years
Societal Benefit to Cost	2.0

4. Smart Strips

Smart strips use occupancy sensors, load sensors, or timers to turn off office equipment when not being used. Smart strips plug into the electrical outlet and the equipment is plugged into the smart strip (similar to standard power strips). Occupancy smart strips sense when persons are not present and shut off the power after a pre-set time of unoccupancy. There is also a smart strip that can sense electrical load and shut off equipment when it hasn't been used for a pre-set period of time. Additionally, there is a smart strip that has a timer that will shut off equipment at a pre-set time.

Sensor Type	Occupancy	Load	Timer
Savings Versus Standard Design	27%	17%	34%
Customer Incentive	$10/ sensor	$7/ sensor	$5/ sensor
Customer Payback	4.3 years	1.4 years	0.2 years
Societal Benefit to Cost	1.1	2.4	5.6

5. LED Traffic Lights for Red and Green Lights

Converting incandescent traffic signals to LED lamps can provide substantial energy and maintenance savings. While incandescent signals last for an average of two years, LED signals typically last eight to ten years. Energy savings are generally in the range of 80-90% for this type of retrofit. Short payback periods are achieved in particular for the red and green signals, as they cycle on for longer periods of time. Because yellow lights cycle on for shorter times, they have not proven to be cost-beneficial, and therefore no incentives will be paid for yellow LED signals. LED signals also offer various safety benefits such as improved visibility and decreased burnout, which can reduce traffic delays and accidents.

Savings Versus Standard Design	92%
Customer Incentive	$25/lamp
Customer Payback	1.8 years
Societal Benefit to Cost	1.4

6. LED Channel Signs

Channel signs are typically used by businesses to illuminate the business name or any other messaging on a store front. Channel signs are typically constructed of an aluminum sheet metal housing with a translucent plastic face in the shape of the letters used to spell out the company's name or message. The signs are typically illuminated using inefficient neon gas tubes. LED modules are now available in new channel signs as well as in retrofit kits for existing neon channel signs. The LED modules are significantly more efficient than the standard Neon gas tubes.

Savings Versus Standard Design	80%
Customer Incentive	$3/lineal foot
Customer Payback	3.3 years
Societal Benefit to Cost	1.1

7. T8 to Premium T8 Replacement

Retrofitting lighting systems with T8 linear fluorescent lighting with electronic ballasts can save up to 40% as compared to T12 linear fluorescent lighting with magnetic ballasts. The letter "T" stands for Tube and the number after the "T" signifies the diameter of the tube in eights. So a T12 lamp is 1.5 inches (12 eighths of an inch) in diameter and a T8 lamp is 1.0 inch (8 eighths of an inch) in diameter.

In time, there will be fewer inefficient T12 fluorescent lighting systems. However, there are premium efficient T8 lamps that draw less energy than standard T8 lamps. For example, a standard four foot T8 lamp draws 32 Watts while a premium T8 lamp only draws 25 Watts. Because of this, APS proposes to add an incentive to replace standard T8 lighting systems with premium efficient T8 lighting systems.

Savings Versus Standard Design	24%
Customer Incentive	$8/lamp
Customer Payback	6.0 years
Societal Benefit to Cost	1.2

8. HVAC – Cooling Tower Sub Cooling

Cooling Tower Sub Cooling promotes the use of cooling towers to make air-cooled HVAC equipment more efficient. Large commercial buildings use water-cooled chilled water

systems that typically have a 40% to 60% efficiency advantage over standard air-cooled package air conditioning equipment (sometimes referred to as a direct-expansion vapor-compression air conditioning systems).

The Cooling Tower Sub Cooling technology modifies air-cooled package air conditioning equipment by adding a heat exchanger and cooling tower. This additional equipment supplements the air cooled equipment with water-cooled technology. This reliable technology increases the cooling capacity of the air-conditioning system and ultimately saves energy.

The technology is particularly applicable for existing direct-expansion vapor-compression air-conditioning equipment that is being reconditioned, replaced, or where new construction/expansion or new installation is planned.

Savings Versus Standard Design	36%
Customer Incentive	$200/Ton
Customer Payback	5.6 years
Societal Benefit to Cost	1.4

9. Building Envelope -Window Film/Shade Screens

Window film and/or window shade screens help reduce the heat load from the sun in commercial buildings. By adding these window treatments, the building's cooling load is reduced and ultimately the building's electricity use is reduced. These new incentives will complement the existing high efficiency window rebate currently available through the APS Solutions for Business program. However, rather than changing out the entire window, customers will now be able to receive an EE incentive by simply adding one of these simple window treatments to their windows to reduce energy consumption and make their buildings more energy efficient.

	Window Film	**Shade Screen**
Savings Versus Standard Design	12%	26%
Customer Incentive	$3/square foot	$2/square foot
Customer Payback	6.3 years	1.2 years
Societal Benefit to Cost	1.2	2.5

10. Computer Power Management Software

Personal computers and monitors are one of the largest sources of plug-in load in commercial offices. With Computer Power Management ("CPM") software, Information Technology personnel can remotely maintain and power off office computers. A New York State Energy Research Development Authority (NYSERDA) study found that 10-20% of building load can be attributed to computers, however, with CPM the computers' power consumption can be reduced significantly.

Savings Versus Standard Design	35%
Customer Incentive	$8/computer
Customer Payback	0.3 years
Societal Benefit to Cost	1.3

11. Refrigeration - Automatic Door Closers

Many walk-in cooler and walk-in freezer doors are left open when staff walk in and out. Automatic door closers for walk-in coolers and walk-in freezers automatically close the door if it is left open. This reduces the air infiltration and reduces the load on the refrigeration equipment. For safety reasons, walk-in cooler doors are constructed with an inside lever to open the door from the inside.

Savings Versus Standard Design	16%
Customer Incentive	$40/door
Customer Payback	0.4 years
Societal Benefit to Cost	2.3

12. Refrigeration - Efficient Condensers

The efficiency of a condensing unit is directly related to the amount of heat it can reject under a range of operating conditions. Improved efficiency is achieved through a variety of design methods including increased surface area, efficient fan motors, and control systems for variable loads. This measure is designed for remote-condensing units, since condenser retrofits are rarely applied to self-contained units. The condenser unit must be designed to meet minimum qualifying criteria for standard operating Energy Efficiency Ratio ("EER") and design temperature ranges. Minimum qualifying criteria will depend on the following characteristics:

- Type: Air-cooled or Evaporative-cooled
- Configuration: Separate or Single Circuit System
- Temperature: Low or Medium

Units designed to the specified criteria will be, on average, 28% more efficient than standard, existing condensing units. The average EER must be 105 for an air-cooled condenser and 240 for an evaporative condenser.

Savings Versus Standard Design	28%
Customer Incentive	$20/Ton
Customer Payback	0.9 years
Societal Benefit to Cost	2.7

13. Refrigeration - Efficient Compressors

Operating times for commercial refrigeration systems range from 40% to 70% of the year, depending on the application. Therefore, improving the efficiency of the compressor can result in significant demand and energy savings. This incentive is targeted toward retrofitting existing hermetically-sealed reciprocating compressors with more efficient units (i.e., scroll, disc valve, semi-hermetic reciprocating). On average, qualifying units will have efficiencies approximately 16% higher than existing units.

Savings Versus Standard Design	16%
Customer Incentive	$80/Ton
Customer Payback	1.0 years
Societal Benefit to Cost	4.5

14. Refrigeration - Floating Head Pressure Control

For outdoor air-cooled refrigeration condensers, floating-head pressure controls take advantage of low air temperatures to reduce the amount of work done by the refrigeration compressor by allowing the head pressure to vary with outdoor conditions. This reduces compressor load and energy consumption and can extend compressor life. Floating-head pressure controls are standard on many new systems and can be retrofitted for existing systems. This measure provides an incentive for customers to retrofit existing air-cooled refrigeration condensers to floating head pressure control. The primary market for this measure will be refrigerated warehouses and grocery stores.

Savings Versus Standard Design	16%
Customer Incentive	$20/Ton
Customer Payback	0.5 years
Societal Benefit to Cost	7.4

15. Energy Efficient Motor Rewind

As large industrial motors deteriorate or fail over time, they are typically refurbished through a repair process called motor rewind. Independent motor repair service centers perform this motor refurbishment. During rewind and repair, these motors have the potential to lose efficiency. This potential efficiency loss is completely avoidable when the motor repair is done in a quality controlled environment.

APS proposes to initiate a motor repair and rewind measure that will work with these motor repair service centers to improve their processes and to provide EE incentives to businesses using the services of such firms. The EE savings improvement is anticipated to be one percent for each repaired motor. This measure improves the quality control and ultimately the energy efficiency of these repaired motors.

APS will seek out and contract with an experienced firm, with motor system engineers on staff, to provide assistance to these repair shops to improve their repair process by providing the following:

- Hosting initial workshops to inform motor repair service centers of the program and its requirements;
- On site evaluation and assessment of each participating motor repair service center to determine the center's ability to maintain efficiency during the repair process;
- Periodic audits of repair shops on proper motor rewind and repair procedures with an emphasis on consistency in repairs; and
- Periodic testing of motors to verify the repair work is capable of returning a motor to its original performance.

Once a motor repair service center meets these requirements, it will be labeled as a Certified Energy Efficiency Motor Repair Center by the APS Solutions for Business program.

APS proposes a $1.5 per horsepower ("hp") incentive be offered to customers using these certified shops for motors 50 hp and larger.

Savings Versus Standard Design	1%
Customer Incentive	$1.5/hp
Customer Payback	0.6 years
Societal Benefit to Cost	1.6

16. Heat Pump Water Heaters

Heat Pump Water Heaters are electric heat pumps with an integrated hot water storage tank designed to transfer heat from the air surrounding the water heater to the domestic water supply. An added benefit is the cool conditioned air provided to the ambient space around the unit. The heat pump water heater gains its heat by removing it from the surrounding air. Once the hot water set point temperature is met, the unit cycles off. The major advantage of the Heat Pump Water Heater is that it is two to three times more efficient than standard electric resistance water heaters. These units provide the additional benefit of supplemental air cooling while the unit is providing heat to the hot water tank.

APS proposes two incentive levels for this measure. The first tier is slightly less efficient as compared to the second tier. The Heat Pump Water Heaters in Tier 1 have a minimum Coefficient of Performance ("COP") of 2.35 while the Heat Pump Water Heaters in Tier 2 have a minimum COP of 2.5.

	Tier 1	Tier 2
Savings versus Standard Design	63%	66%
Customer Incentive	$200/Unit	$250/Unit
Customer Payback	2.9 years	4.1 years
Societal Benefit to Cost	2.4	1.8

17. Coin Operated Clothes Washers

Energy efficient coin operated clothes washers save energy by using less hot water and operating more efficiently compared to standard coin operated washers. These washers must comply with the proposed 2011 Consortium for Energy Efficiency ("CEE") criteria which is comprised of four tiers: Tier 1, Tier 2, Tier 3, and Advanced. The higher tiers represent the more energy efficient equipment.

ENERGY STAR® uses two factors to rate efficiency. The first is called the Modified Energy Factor ("MEF"), which is the EE measure for all clothes washers. MEF is the cubic foot capacity of the clothes container divided by the total clothes washer energy cycle. The higher the MEF value, the more efficient the washer. This factor must be greater than 2.0 to receive the ENERGY STAR® designation.

The second factor is called the Water Factor ("WF"). The WF is the water efficiency factor, representing the amount of water used per cycle. The lower the WF value, the more efficient the washer. This factor must be less than 6.0 to be considered ENERGY STAR®.

TABLE 2
CEE Tier Levels

CEE Tier Level	Modified Energy Factor	Water Factor	Energy Savings (kWh/yr)	Water Savings (Gallons/yr)
Tier 1	2.00	6.0	345	4,116
Tier 2	2.20	4.5	399	5,880
Tier 3	2.40	4.0	443	6,468
Advanced Tier	2.60	3.5	481	7,056

	Tier 1	Tier 2	Tier 3	Advanced
Savings versus Standard Design	37%	43%	48%	52%
Customer Incentive	$50/Machine	$100/Machine	$150/Machine	$200/Machine
Customer Payback	4.2 years	5.1 years	3.2 years	6.3 years
Societal Benefit to Cost	1.7	1.8	2.0	1.6

B. DIRECT INSTALL MEASURES

The Direct Install family of measures currently provides an incentive for customers to replace T12 fluorescent lighting with T8 fluorescent lighting. This incentive is $0.15 per annual kWh saved. No change is proposed for this incentive level.

APS proposes higher Direct Install incentives for more efficient premium T8 fluorescent lighting.

1. Direct Install - T12 to Premium T8

For customers with T12 lamps, APS proposes that the Direct Install incentive to install high efficiency premium T8 fluorescent lamps be set at $0.175 per annual kWh saved.

2. Direct Install - T8 to Premium T8

For customers with T8 lamps, APS proposes that the Direct Install incentive to install high efficiency premium T8 fluorescent lamps be set at $0.25 per annual kWh saved.

	T12 to T8 (Existing)	T12 to Premium T8 (Proposed)	T8 to Premium T8 (Proposed)
Savings Versus Standard Design	29%	45%	24%
Customer Incentive	$0.15/kWh	$0.175/kWh	$0.25/kWh
Customer Payback	1.2 years	0.3 years	5.7 years
Societal Benefit to Cost	2.9	4.0	1.2

C. OTHER MEASURE: BID FOR EFFICIENCY PILOT

The Bid for Efficiency concept takes an innovative approach to the market, using elements of competition and the potential for high rewards to enhance customer interest in energy efficiency. Because Bid for Efficiency concept is a unique approach to EE, it is proposed as a pilot measure. APS proposes to implement the measure as a pilot in 2011 through 2013, evaluate the pilot results in 2013, and if market response and measure savings indicate the measure should be permanently adopted, the Company would include the measure in its 2014 Implementation Plan.

Targeted Bid for Efficiency participants and project sponsors may include customers, trade allies or a combination of customers at multiple sites. Bid for Efficiency addresses customer market barriers such as budgetary planning (fiscal year vs. program calendar year) and simplified application that emphasizes holistic solutions verified by Measurement and Verification ("M&V"). Customer/project sponsor projects will be able to specify their own custom EE projects based on their unique circumstances and competitively requested efficiency incentives that are within Bid for Efficiency guidelines. The Bid for Efficiency measure is utilized in other jurisdictions with indications of a high degree of effectiveness in producing energy savings.

Some of the other jurisdictions include Mid-American Energy Company, Iowa; San Diego Gas & Electric, California; WPPI Energy, Wisconsin; and Xcel Energy, Colorado and Minnesota.

1. Pilot's Objectives and Rationale

Customers or project sponsors bid competitively for incentives within broad guidelines. Bid for Efficiency encourages customers and project sponsors to think holistically regarding energy systems, and to develop projects designed to optimize system energy use instead of considering only the energy usage of individual pieces of equipment.

The Bid for Efficiency pilot will highlight a systems approach to energy efficiency by using more accurate process controls; better integration of process equipment; better utilization of plant utilities; and greater use of energy-recovery opportunities. Productivity improvements can result in greater energy efficiency and vice versa. APS encourages customers to think outside the box in submitting bids for EE projects.

APS's implementation goals for the measure are as follows:

- Ensure projects are implemented and verified in a time-efficient manner.
- Allow the measure to be customer-driven; responsibility will be placed on customer (or project provider) to select appropriate trade and professional allies to design and implement the project and to prepare the incentive application.
- Encourage implementation of multi-measures, comprehensive projects.

2. Target Market

Initially, the Bid for Efficiency pilot's outreach will focus on market segments with significant savings potential, unique load or energy savings characteristics, and those that require specialized delivery or support services. The target market consists primarily of larger customers and customer groups that may include grocery stores, convenience stores, or data centers.

Electric loads may be aggregated among multiple facilities to meet the kWh threshold. The minimum target electric energy reduction amount per proposal is 200,000 kWh in first-year savings.

3. Project Criteria

Customers or a trade ally project sponsor propose projects and bid for incentives based on the amount of projected EE kWh savings of the proposed project (or group of projects). The customer's bid details the project proposed to be implemented, the estimated energy savings and demand reductions. APS customers applying through this measure compete for incentives, with APS awarding projects based on its evaluation of each bid based on pre-determined criteria that will include but are not limited to the following criteria:

- Requested overall incentive per estimated kWh savings.
- Weighted average measure lifetime of proposed project.
- Cost-effectiveness of proposal similar to the Solution for Business custom measures, calculated by APS.

- Likelihood of project implementation.
- Participant's proposed M&V Plan.

4. Participant Eligibility

Any entity, customer, or project sponsor meeting the application requirements of installing eligible EE measures at an eligible facility may participate in Bid for Efficiency. Eligible project sponsors may include, but are not limited to APS customers, Energy Service Companies, and engineering firms.

Note, any third-party project sponsor must submit its application with the consent and support of the identified APS customer.

5. Measure Eligibility

To provide participants maximum flexibility in identifying potential projects, Bid for Efficiency does not explicitly specify eligible measures. However, measures must meet the following requirements:

- Produce a measurable and verifiable reduction in energy consumption;
- Produce savings through an increase in energy efficiency or better utilization of energy through improved production equipment or controls;
- Must be installed in a retrofit application; and
- Must have a useful life of five years or greater.

Projects selected to participate in Bid for Efficiency will not be eligible for an incentive from any other APS incentive program.

6. Incentive Design

Bid for Efficiency will specify a recommended maximum bid amount that will be less than the custom incentive level (currently set at 11 cents per kWh). Participants will be invited to bid less to be more competitive and to improve their chances for project award.

Each bid must include a requested incentive amount (in dollars) and an estimate of energy usage reduction (in annual kWh/year). The bid amount(s) proposed by the bidder should be based on receiving payment for the first full year's savings.

For payment purposes, energy reduction is simply the total net annual energy usage reduction occurring as a result of the implementation of the project. Payment will be based on the energy usage reduction achieved over the first full year's operation. Savings will be calculated in relation to a baseline value and verified by APS's implementation support contractor and reviewed as part of overall portfolio measurement, evaluation and research activities.

7. Sequence of Measure Steps

The proposed Bid for Efficiency process will follows these steps:

a. APS will advertise Bid for Efficiency Pilot to customers and trade allies.

b. Customers/trade allies will bid their EE projects.

c. APS will accept the project.

d. APS will perform pre-installation metering.

e. Customer will implement proposed project.

f. APS will pay 50% of rebate for installation.

g. APS will perform post-installation metering.

h. APS pays the remaining incentive based on M&V energy savings compared to current baseline conditions (based on first full year of operation).

APS estimates Bid for Efficiency projects will not be completed until 2012. Therefore, savings impacts and budget impacts will not be realized in 2011, but will begin to be realized in 2012.

8. Measurement & Verification

APS will require M&V work prior to project implementation, in order to establish the baseline energy consumption for a project and post project verification of installation.

Upon receipt of a project's pre-installation report, the program contractor will identify the appropriate M&V activities (using either the established protocols for common measures or through the process described above for unique projects) and assist the project sponsor in establishing the baseline prior to approving the submittal and granting permission to proceed with the installation of the measures.

9. Bid for Efficiency Summary

APS recommends a budget of $2M beginning in 2012 for Bid for Efficiency. While it is unknown exactly what types of projects participants may propose under the Bid for Efficiency pilot, APS's analysis of likely energy savings projects participants may undertake resulted in the estimates shown below. Actual results from the Pilot will be used to update these numbers as they become available.

Savings versus Standard Design	20%
Customer Incentive	$50,000/project (estimated)
Customer Payback	5.6 years
Societal Benefit to Cost	1.5

III. Budget & Savings

The new Non-Residential EE measures were included in the original budget and savings projections in the 2011 Plan filed on June 1, 2010. The budget and savings projections remain unchanged from the 2011 Plan filing.

Table 3 shows a summary of the anticipated 2011 Non-Residential EE spending by program. Large customers with annual usage greater than 40,000 MWh qualify to self direct their funds for their own EE projects in 2011. To date, no customer has applied for Self Direction; although the deadline is December 1, 2010, for qualified customers to notify APS to self direct their funds. This budget assumes no customer will self direct their funds in 2011. All numbers in Table 3 remain unchanged from the estimates provided in the June 1, 2010 Plan filing, and are provided here only as a convenient reference.

Table 3
APS Energy Efficiency
Non-Residential Programs
2011 Estimated Budget
(Dollars)

Program	Rebates & Incentives	Training & Tech Assistance	Consumer Education	Program Implement	Program Marketing	Plan & Admin	Financing	Program Total Cost
Large Existing	$8,588,000	$ 388,000	$ 87,000	$3,165,000	$867,000	$601,000	$ 96,000	**$13,792,000**
New Construction	$1,769,000	$ 127,000	$ 25,000	$1,025,000	$284,000	$180,000	$ 0	**$3,410,000**
Small Business	$3,315,000	$ 92,000	$ 10,000	$607,000	$205,000	$183,000	$48,000	**$4,460,000**
Schools	$2,239,000	$ 99,000	$ 13,000	$678,000	$221,000	$113,000	$95,000	**$3,458,000**
Energy Info. Services	$138,000	$ 10,000	$ 5,000	$20,000	$10,000	$12,000	$ 0	**$195,000**
Total	**$16,049,000**	**$ 716,000**	**$ 140,000**	**$5,495,000**	**$1,587,000**	**$1,089,000**	**$ 239,000**	**$25,315,000**

This budget is an estimate of the spending needed to meet the 2011 energy efficiency annual MWh goal. If this target is not met or is exceeded, then the spending and performance incentive will vary accordingly. Additionally, even if the target is met, the cost per kWh of savings may vary. For these reasons, the actual spending in 2011 will vary from the point estimate provided in this Table.

Table 4 provides details of the expected annual and lifetime energy savings and peak demand savings from each Non-Residential EE program and a summary of the net benefits generated for 2011. These are in addition to energy savings, costs and net benefits achieved previously from the 2005 through 2010 timeframe, which have been or will be reported in APS's Semi-annual DSM Report filings. The lifetime energy savings are the estimated savings that will

result over the expected lifetime of all program measures installed in 2011. All numbers in Table 4 remain unchanged from the estimates provided in the June 1, 2010 DSM Plan filing.

Table 4
Non-Residential Energy Efficiency
Electric Savings Benefits[1]
2011 Programs

	Capacity Savings MW	Annual MWh Savings	Lifetime[2] MWh Savings	Societal Benefits	Societal Costs	Net Benefits
Large Existing Facilities	15.1	101,000	1,287,000	$ 62,194,000	$ 22,939,000	$ 39,255,000
New Construction	1.6	27,000	377,000	$ 16,260,000	$ 4,952,000	$ 11,308,000
Small Business	6.1	28,000	439,000	$ 19,455,000	$ 4,606,000	$ 14,849,000
Schools	4.6	23,000	314,000	$ 15,534,000	$ 4,515,000	$ 11,019,000
Energy Information System	0.2	2,000	27,000	$ 996,000	$ 224,000	$ 772,000
Total	**27.6**	**181,000**	**2,444,000**	**$114,439,000**	**$37,236,000**	**$77,203,000**

1. *All saving values are net of free riders and include system line losses.*
2. *Refers to savings over the expected lifetime of all program measures.*